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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,644	02/08/2002	Victor Giurgiutiu	16139/09021	3274
27530	7590	12/15/2004	EXAMINER	
NELSON MULLINS RILEY & SCARBOROUGH LLP			SHAH, KAMINI S	
P.O. BOX 11070			ART UNIT	
COLUMBIA, SC 29211			PAPER NUMBER	

2142

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/072,644

Applicant(s)

GIURGIUTIU, VICTOR

Examiner

Kamini S Shah

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 3-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-20 is/are allowed.
- 6) ☒ Claim(s) 3,7-13 and 21-31 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/22/04 has been entered.

### ***Response to Arguments***

2. Applicant's arguments, see RCE, filed 10/22/04, with respect to the rejection(s) of claim(s) 1 and 2 under 35 USC 102 (b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Chang et al 6,370,964.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 3, 7-13, 21-31 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Chang et al 6,370,964.

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Regarding to claimed invention, Chang et al clearly teaches diagnostic layer adapted to detect and measure damage in material comprising piezoelectric devices embedded in the diagnostic layer in a network and servers as a sensors, see at least abstract.

Regarding to claimed generator to produce ultrasonic waves having frequency about 200 KHz, Chang et al teaches signals input to actuators or sensors 14a are in the form of a pulse wave consisting of a waveform at a frequency of 30 to 250 KHz, see col. 10, lines 1-5. Additionally, it teaches that signals received by sensors 14b in response to signals input to actuators 14a may take the form of stress waves, see col. 10, lines 6-8.

Regarding claims 7-13, Chang et al discloses in figure 5A, unit 20 includes diagnostic layer 10 electrically coupled to signal generating unit 32 for providing input signals to actuators, and generating unit is a function generator such as Model 33120A-15 MHz function/arbitrary wave generator, see col. 10, lines 47-58. Regarding the claimed thickness and planar surface of claim 12, Chang et al discloses most preferable thickness of the dielectric substrate in range of from about 0.001 to 0.003 inches, see col. 13, lines 33-44.

Regarding claims 21-31, Chang clearly teaches claimed invention as disclosed in abstract, including monitoring changes in condition of a material. On col. 14, lines 3-44, Chang discloses first set and second sets of output data and comparison of two sets of data.

***Allowable Subject Matter***

5. Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Cited prior art does not disclose generator operative to excite each of sensors in array in round-robin fashion.

6. Claims 14-20 would be allowable over prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kamini S Shah whose telephone number is 571-272-2279. The examiner can normally be reached on IFP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack B Harvey can be reached on 571-272-3896. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kamini S Shah  
Primary Examiner  
Art Unit 2142